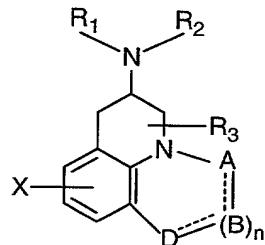


CLAIMS

WHAT IS CLAIMED IS:

1. A method of treating sexual disturbances in a human who is in need of such treatment which comprises administering a sexually therapeutically effective amount of a compound
5 of the formula (A)



where

R₁, R₂ and R₃ are the same or different and are:

- H,
- 10 C₁-C₆ alkyl,
- C₃-C₅ alkenyl,
- C₃-C₅ alkynyl,
- C₃-C₅ cycloalkyl,
- C₄-C₁₀ cycloalkyl,
- 15 phenyl substituted C₁-C₆ alkyl,
- NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to produce pyrrolidinyl, piperidinyl, morpholinyl, 4-methyl piperazinyl or imidazolyl;

X is:

- H,
- 20 C₁-C₆ alkyl,
- F, -Cl, -Br, -I,
- OH,
- C₁-C₆ alkoxy,
- cyano,
- 25 carboxamide,
- carboxyl,
- (C₁-C₆ alkoxy)carbonyl,

A is:

CH,

CH₂,
 CH-(halogen) where halogen is -F, -Cl, -Br, -I,
 CHCH₃,
 C=O,
 5 C=S,
 C-SCH₃,
 C=NH,
 C-NH₂,
 C-NHCH₃,
 10 C-NHCOOCH₃,
 C-NHCN,
 SO₂,
 N;

B is:

15 CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 C=O,
 N,
 20 NH,
 N-CH₃,

D is:

CH,
 CH₂,
 25 CH-(halogen) where halogen is as defined above,
 C=O,
 O,
 N,
 NH,
 30 N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 C=S, C=NH, SO₂;

then D is CH_2 , $\text{CH}-\text{(halogen)}$ where halogen is as defined above, $\text{C}=\text{O}$, O , NH , $\text{N}-\text{CH}_3$;

(2) that when n is 0, and

A is CH , $\text{C}-\text{SCH}_3$, $\text{C}-\text{NH}_2$, $\text{C}-\text{NHCH}_3$, $\text{C}-\text{NHCOOCH}_3$, $\text{C}-\text{HCN}$, N ; then
5 D is CH , N ;

(3) that when n is 1, and

A is CH_2 , $\text{CH}-\text{(halogen)}$ where halogen is as defined above, CHCH_3 , $\text{C}=\text{O}$,
C=S, C=NH, SO₂; and

B is CH_2 , $\text{CH}-\text{(halogen)}$ where halogen is as defined above, $\text{C}=\text{O}$, NH , $\text{N}-$
10 CH_3 ; then

D is CH_2 , $\text{C}=\text{O}$, O , NH , $\text{N}-\text{CH}_3$;

(4) that when n is 1, and

A is CH , $\text{C}-\text{SCH}_3$, $\text{C}-\text{NH}_2$, $\text{C}-\text{NHCH}_3$, $\text{C}-\text{NHCOOCH}_3$, $\text{C}-\text{HCN}$, N ; and
15 B is CH , N ; then

D is CH_2 , $\text{C}=\text{O}$, O , NH , $\text{N}-\text{CH}_3$;

(5) that when n is 1, and

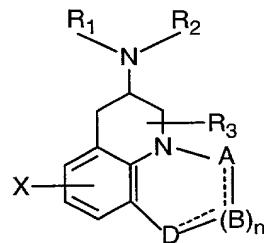
A is CH_2 , CHCH_3 , $\text{C}=\text{O}$, C=S, C=NH, SO₂, and

B is CH , N ; then

D is CH , N ; and pharmaceutically acceptable salts thereof to the human.

20 2. A method of treating sexual disturbances according to claim 1 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

25 3. A method of inducing mating a non-human mammal which comprises administering a sexually mating amount of a compound of the formula (A)



where

R₁, R₂ and R₃ are the same or different and are:

-H,

C₁-C₆ alkyl,
 C₃-C₅ alkenyl,
 C₃-C₅ alkynyl,
 C₃-C₅ cycloalkyl,
 5 C₄-C₁₀ cycloalkyl,
 phenyl substituted C₁-C₆ alkyl,
 -NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

10 -H,
 C₁-C₆ alkyl,
 -F, -Cl, -Br, -I,
 -OH,
 C₁-C₆ alkoxy,
 15 cyano,
 carboxamide,
 carboxyl,
 (C₁-C₆ alkoxy)carbonyl,

A is:

20 CH,
 CH₂,
 CH-(halogen) where halogen is -F, -Cl, -Br, -I,
 CHCH₃,
 C=O,
 25 C=S,
 C-SCH₃,
 C=NH,
 C-NH₂,
 C-NHCH₃,
 30 C-NHCOOCH₃,
 C-NHCN,
 SO₂,
 N;

B is:

CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 C=O,
 5 N,
 NH,
 N-CH₃,

D is:

CH,
 10 CH₂,
 CH-(halogen) where halogen is as defined above,
 C=O,
 O,
 N,
 15 NH,
 N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

20 C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,
 NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

25 D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-

30 CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

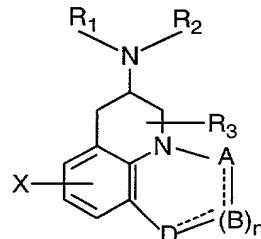
B is CH, N; then

5 D is CH, N; and pharmaceutically acceptable salts thereof.

4. A method of inducing mating according to claim 3 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

5. A method of treating a sexual deficiency state in a human who has epilepsy,

10 craniopharyngioma, hypogonadism or who has had a hysterectomy/oophorectomy, hysterectomy or oophorectomy which comprises administering a sexually therapeutically effective amount of a compound of the formula (A)



where

15 R₁, R₂ and R₃ are the same or different and are:

-H,

C₁-C₆ alkyl,

C₃-C₅ alkenyl,

C₃-C₅ alkynyl,

20 C₃-C₅ cycloalkyl,

C₄-C₁₀ cycloalkyl,

phenyl substituted C₁-C₆ alkyl,

-NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to produce pyrrolidinyl, piperidinyl, morpholinyl, 4-methyl piperazinyl or imidazolyl;

25 X is:

-H,

C₁-C₆ alkyl,

-F, -Cl, -Br, -I,

-OH,

C₁-C₆ alkoxy,
 cyano,
 carboxamide,
 carboxyl,
 5 (C₁-C₆ alkoxy)carbonyl,

A is:

CH,
 CH₂,
 CH-(halogen) where halogen is -F, -Cl, -Br, -I,
 10 CHCH₃,
 C=O,
 C=S,
 C-SCH₃,
 C=NH,
 15 C-NH₂,
 C-NHCH₃,
 C-NHCOOCH₃,
 C-NHCN,
 SO₂,
 20 N;

B is:

CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 25 C=O,
 N,
 NH,
 N-CH₃,

D is:

30 CH,
 CH₂,
 CH-(halogen) where halogen is as defined above,
 C=O,
 O,

N,
NH,
N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

5 (1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,
NH, N-CH₃;

10 (2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then
D is CH, N;

(3) that when n is 1, and

15 A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
C=S, C=NH, SO₂; and
B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

20 A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and
B is CH, N; then
D is CH₂, C=O, O, NH, N-CH₃;

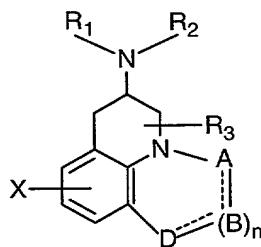
(5) that when n is 1, and

25 A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and
B is CH, N; then
D is CH, N; and pharmaceutically acceptable salts thereof to the human.

6. A method of treating a sexual deficiency state according to claim 5 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

30

7. A method of increasing sexual desire, interest or performance in a human who is desirous thereof which comprises administering a sexually useful effective amount of a compound of the formula (A)



where

R_1 , R_2 and R_3 are the same or different and are:

-H,

5 C_1-C_6 alkyl,

C_3-C_5 alkenyl,

C_3-C_5 alkynyl,

C_3-C_5 cycloalkyl,

C_4-C_{10} cycloalkyl,

10 phenyl substituted C_1-C_6 alkyl,

- NR_1R_2 where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

-H,

15 C_1-C_6 alkyl,

-F, -Cl, -Br, -I,

-OH,

C_1-C_6 alkoxy,

cyano,

20 carboxamide,

carboxyl,

$(C_1-C_6$ alkoxy)carbonyl,

A is:

CH,

25 CH_2 ,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

$CHCH_3$,

$C=O$,

$C=S$,

C-SCH₃,
 C=NH,
 C-NH₂,
 C-NHCH₃,
 5 C-NHCOOCH₃,
 C-NHCN,
 SO₂,
 N;

B is:

10 CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 C=O,
 N,
 15 NH,
 N-CH₃,

D is:

CH,
 CH₂,
 20 CH-(halogen) where halogen is as defined above,
 C=O,
 O,
 N,
 NH,
 25 N-CH₃;

and n is 0 or 1, and where ----- is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 C=S, C=NH, SO₂;

30 then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,
 NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then
 D is CH, N;

(3) that when n is 1, and

A is CH_2 , CH -(halogen) where halogen is as defined above, CHCH_3 , $\text{C}=\text{O}$, $\text{C}=\text{S}$, $\text{C}=\text{NH}$, SO_2 ; and

B is CH_2 , CH -(halogen) where halogen is as defined above, $\text{C}=\text{O}$, NH , N -

5 CH_3 ; then

D is CH_2 , $\text{C}=\text{O}$, O , NH , N-CH_3 ;

(4) that when n is 1, and

A is CH , C-SCH_3 , C-NH_2 , C-NHCH_3 , C-NHCOOCH_3 , C-NHCN , N ; and

B is CH , N ; then

10 D is CH_2 , $\text{C}=\text{O}$, O , NH , N-CH_3 ;

(5) that when n is 1, and

A is CH_2 , CHCH_3 , $\text{C}=\text{O}$, $\text{C}=\text{S}$, $\text{C}=\text{NH}$, SO_2 , and

B is CH , N ; then

D is CH , N ; and pharmaceutically acceptable salts thereof to the human.

15 8. A method of increasing sexual desire, interest or performance in a human who is desirous thereof according to claim 7 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

9. (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione and

20 pharmaceutically acceptable salts thereof.

10. A compound according to claim 9 which is (5R)-5-(Methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione malate.